REMARKS

Now pending in the application are claims 1-50. Claims 37-50 were withdrawn from further consideration in response to the Examiner's restriction requirement dated June 30, 2006. Amongst claims 1-36, claims 1, 12, 22 and 28 are independent. Claims 1-37 stand rejected. Claims 1, 12, 22, and 28 are amended herein to expedite prosecution. Support for the amendment may be found at least in the present application at pages 34-40, and more specifically at page 35, lines 19-24, and Figures 7 and 8A. No new matter has been added.

Applicants thank the Examiner for withdrawing the 35 U.S.C. §101 rejection, the 35 U.S.C. §103(a) rejection in view of the Potts reference and the Fox reference, and the 35 U.S.C. §103(a) rejection in view of Goryanin and Bubendorf (Office Action at pages 2-3).

Applicants respectfully traverse the outstanding rejections and urge that the pending claims are in condition for allowance.

I.   Claim Rejections under 35 U.S.C. §103(a) in view of Yao and Rice

In the Office Action, the Examiner rejected claims 1-3, 4-14, 16-23, 25-30, and 32-36 under 35 U.S.C. §103(a) as being obvious over *Real-Time Linux Target: A MATLAB-Based Graphical Control Environment* by Yao et al. (hereafter "Yao") in view of U.S. Patent Application Publication No. 2002/0091666 to Rice et al. (hereafter "Rice"). Applicants respectfully traverse this rejection.

Independent claim 1 recites:

> 1. A computer-readable medium holding instructions executable in a computing device, the instructions when executed causing at least one computing device to:
> generate a result from executing a block diagram model of a biological process by performing a simulation of the block diagram model with a simulation engine;
> ***store a simulation context of the simulation by registering an area of memory that constitutes the simulation context, the simulation context comprising one or more values for one or more attributes, the one or more values being established during the simulation of the block diagram model;***
> gather data directly from an in situ experimental device on which an ongoing in situ experiment of the biological process is conducted;

compare the generated result to the data gathered from the experimental device using an analysis environment that is in communication with the simulation engine; and

modify the model of the biological process based on the comparison to correct the model of the biological process.

In Applicants' previous response, each of independent claims 1, 12, 22, and 28 was amended to recite *storing a simulation context of the simulation by registering an area of memory that constitutes the simulation context*. In the present Office Action, the Examiner asserts that Yao discloses this feature of claim 1 at pages 15-17, steps 2, 3, and 4. Applicants respectfully disagree.

At pages 14-15, Yao discusses how to initialize simulation parameters (e.g., "Step 2: Initialize the Simulation Parameters"). At step 3, Yao initializes the I/O Board Server (Yao at page 16), and at step 4, Yao sets block properties (Yao at page 17). Each of these steps is performed prior to simulation (the simulation being performed in step 6, Yao at page 19). That is, steps 2, 3, and 4 initialize the model prior to the simulation of the model.

In contrast, the present application provides a way to store the simulation context – that is, as different parameters and attributes are set or changed <u>during simulation</u>, the parameters and attributes are stored as the simulation context (Specification at pages 34-36). Using this simulation context, for example, the simulation can be restarted from a particular point in time corresponding to the simulation context (Specification at pages 39-40). This is different from the <u>pre-simulation</u> configuration described in Yao.

In order to clarify this distinction, Applicants amend independent claims 1, 18, 22, and 28 herein to recite that *the simulation context comprises values for attributes, the values being established during the simulation of the block diagram model*. Applicants respectfully urge that Yao is silent with respect to storing values for attributes that are established during the simulation of the block diagram model. In the cited passages of Yao, each step is performed <u>prior</u> to simulation and does not involve any values that are established <u>during</u> simulation.

The Rice reference also does not disclose *storing a simulation context*, wherein *the simulation context comprises values for attributes, the values being established during the simulation of the block diagram model*. Rice is generally directed to the creation and use of

"overlays" to store and manipulate computational biological models (Rice at Abstract). The overlays do not correspond to a simulation context including values for attributes. Rice describes two ways to generate an overlay (Rice at paragraph [0055]). In the first method (the "differencing method"), two different models are compared and the differences between them are abstracted into an overlay (Rice at paragraphs [0056] – [0063]). In this method, two models that have been <u>constructed</u> are compared; there is no discussion of storing values obtained during <u>simulation</u>, as recited in claim 1. In the second method, (the "direct method"), the overlay is created based on <u>experimental</u> data (Rice at paragraphs [0064] – [0066]), and not a <u>simulation of the block diagram model</u>, as recited in claim 1.

For at least the reasons set forth above, Applicants respectfully urge that Yao and Rice, alone or in any reasonable combination, do not disclose or suggest Applicants' claims 1, 12, 22, and 28. Claims 2-3 and 4-11 depend from claim 1; claims 13-14 and 16-21 depend from claim 12; claims 23 and 25-27 depend from claim 22; and claims 29-30 and 32-36 depend from claim 28. Therefore, Applicants respectfully request that the above 35 U.S.C. §103(a) rejection of claims 1-3, 4-14, 16-23, 25-30, and 32-36 be withdrawn.

II.   Claim Rejections under 35 U.S.C. §103(a) in view of Yao, Rice, and Potts

In the Office Action, the Examiner rejected claims 4, 15, 24, and 31 under 35 U.S.C. §103(a) as being unpatentable over Yao and Rice, and further in view of U.S. Patent No. 6,882,940 to Potts (hereafter "Potts"). Applicants respectfully traverse this rejection.

As noted above, each of independent claims 1, 12, 22, and 28 recite the feature of *storing a simulation context of the simulation by registering an area of memory that constitutes the simulation context, wherein the simulation context comprises values for attributes, the values being established during the simulation of the block diagram model*. As further noted above, Yao and Rice, alone or in any reasonable combination, do not disclose or suggest this feature of the independent claims. Applicants respectfully urge that that Potts also does not disclose or suggest at least the above feature of claims 1, 12, 22, and 28.

Potts is generally concerned with monitoring, for example, glucose values in order to predict a hypoglycemic event in a subject (Potts at Abstract). Accordingly, Potts is not concerned with a simulation context, and does not disclose *storing a simulation context of the*

simulation by registering an area of memory that constitutes the simulation context, wherein the simulation context comprises values for attributes, the values being established during the simulation of the block diagram model. Potts does not disclose or suggest a simulation context, and the Examiner does not suggest that Potts discloses a simulation context. Instead, the Examiner relies on Potts only for user-settable thresholds and functionality for generating an alert when the thresholds are exceeded (Office Action at page 6).

For at least the reasons set forth above, Applicants respectfully urge that Yao, Rice, and Potts, alone or in any reasonable combination, do not disclose or suggest Applicants' claims 1, 12, 22, and 28. Claim 4 depends from claim 1, claim 15 depends from claim 12, claim 24 depends from claim 22, and claim 31 depends from claim 28. Therefore, Applicants respectfully request that the above 35 U.S.C. §103(a) rejection of claims 4, 15, 24, and 31 be withdrawn.

III.   Provisional Double Patenting Rejections

Claims 1, 12, 22, and 28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, and 3 of copending Application No. 10/783552 in view of Rice. As the rejection is a provisional rejection, Applicants will submit a Terminal Disclaimer, if necessary, when a final version of the claims is agreed upon.

CONCLUSION

In view of the above comments, Applicants believe that the pending application is in condition for allowance and urge the Examiner to pass the claims to allowance. Should the Examiner feel that a teleconference would expedite the prosecution of this application, the Examiner is urged to contact the Applicant's attorney at (617) 227-7400.

Please charge any shortage or credit any overpayment of fees to our Deposit Account No. 12-0080, under Order No. MWS-109RCE. In the event that a petition for an extension of time is required to be submitted herewith, and the requisite petition does not accompany this response, the undersigned hereby petitions under 37 C.F.R. §1.136(a) for an extension of time for as many months as are required to render this submission timely. Any fee due is authorized to be charged to the aforementioned Deposit Account.

Dated: January 27, 2010   Respectfully submitted,

                                            Electronic signature: /Kevin J. Canning/
                                            Kevin J. Canning
                                            Registration No.:   35,470
                                            LAHIVE & COCKFIELD, LLP
                                            One Post Office Square
                                            Boston, Massachusetts 02109-2127
                                            (617) 227-7400
                                            (617) 742-4214 (Fax)
                                            Attorney/Agent For Applicant